

Building Effective Association Amongst The Academia World And Industry World

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Abstract: Academia and industry share a collegial relationship. Academia produces graduates who are captivated by the industries in the end. The quality of research works from different Universities are too worthy to be taken by the industries and convert those highly engrossing research works into products and services. The academia and industry are like two sides of a coin supporting each other's existence but there always existed a gap between the two spheres. The obstacles seems to be unseen till a point is reached where a graduate is asked to meet the industry requirements all at once. The academia must start giving training in an industrial perspective. The academia must go hand in hand with the industry in knowing the latest technology updates or ideas, job nature in industry, which all can be accomplished with a small regulation in the curriculum to meet industry requirements thereby moulding the graduate to compete with the outside industry world.

Keywords: Academic Research, Industry Research, Government Research, SWOT Analysis

I. Introduction

This paper gives a gap of Industry-Institute Interaction on an undergrad configuration venture, the obstacles included and the ensuing advantages to understudies, the establishment and industry. In this undertaking, gatherings of information related to student's understudies are given an open-finished plan brief to which they are anticipated that would apply configuration, building and business abilities so as to deliver a practical and attractive item. It was chosen to set out upon joint effort with an outer organization keeping in mind the end goal to give the understudies the nearest conceivable estimate to certifiable outline understanding. A few universal models were considered preceding beginning the venture. Criticism was acquired from understudies and from the organization previously, amid and consequent to the undertaking. The encounters of the creator are reported, together with a record of the results and ensuing work [1]. "Alone we can do so little; together we can do so much" - Helen Keller

Industry Expectations: Operational Approach, solutions for concerns, develop skilled manpower, market aligned courses.

Academia Expectations: Funding and infrastructure, equal partnership, placements and feasible goals.

Definition of Academic Research:

Academic research is the investigation and writing based upon the idea of scientific inquiry, making a rigorous and relevant contribution to knowledge by understanding of a cause and effect relationship of a given phenomenon or uncovering a new phenomenon.

- Making a thorough and important commitment to learning.
- Comprehension of a circumstances and end results relationship of a given wonder or revealing another marvel
- Sorted out request to give data to the answer for an issue.
- A watchful and efficient examination in some field of learning, embraced to set up actualities or standards
- Logical or academic request or examination and the best possible correspondence of the discoveries

Definition of Industry Research:

Industrial research is the planned research or critical investigation aimed at the acquisition of new knowledge and skills for developing new products, processes or services or for bringing about a significant improvement in existing products, processes or services.

It implies the arranged research or basic examination went for the securing of new learning and abilities for growing new items, procedures or administrations or for achieving a noteworthy change in existing items, procedures or administrations. It involves the making of parts of complex frameworks, which is fundamental for the mechanical research, outstandingly for bland innovation approval, to the prohibition of models. Its main goal is to earn money by creating a product.

II. Problem Statement

The current biggest gap is the pace which the industry is moving. The rate at which academics is generating the required talent as per the industry requirement. Both these factors are resulting in poor employment at entry levels. Technology disruption is also changing the business dynamics and creating different streams within the industry. Academics need to address these issues due to significant disconnected operations models between industry and education.

III. Review of Literature

As the authors realize that industry and the scholarly world are working as two distinct spaces, because of ideal models moves, the developing multifaceted nature of the business condition made these two areas to team up each other. The colleges are not just planned to get ready to deliver the talented students to corporate world, yet additionally in different impalpable ways. The converging necessities and mutually between dependent relationship requires recognizing methods for facilitate certification academia– industry organizations. Being the school in a level 2 city it is hard to pull in industry be that as it may, here they made an endeavor to cross over any barrier between the business and the scholarly community. The authors endeavors to investigate how they can function intimately with industry, think about the degree of academia– industry association, and recognize conceivable region where industry's commitment to the scholarly world would be most profitable in the Indian situation. They are sharing the difficulties confronted, arrangements received for Computer Science and Engineering project to unite industry– the scholarly world to influence the understudies business to prepared [2].

The advantages of close joint effort with industry for undergrad plan understudies have been over and over accentuated in the writing. The authors portray the task of a plan rivalry as a shared venture between the DIT School of Manufacturing and Design Engineering and an outside organization. Little gatherings of outline understudies were set a plan brief and guided during that time by organization agents and by their scholarly managers. Alongside giving a case of issue based learning and demonstrating how scholarly undertakings can stay applicable to the business configuration field, the authors gives a case of what methodologies can be taken to guarantee that the industry institute joint effort continues easily and produces successful learning and results for all concerned [1]. Adam Smith in the eighteenth century and Alfred Marshall in the nineteenth century tended to the topic of how interests in "look into" impact the abundance of countries. In any case, Dugupta and David, (1994) [3] call attention to that scholarly establishments work in light of the standards of 'open science and underlines the free, fast and fair-minded spread of research comes about, though the business work under the standards of 'private science scan for the assignment and business misuse of learning. Given these distinctions, close communication between the two circles can eventually be 'exorbitant' as far as the creation and dispersion of learning. These cases present three inquiries that characterize the reason for the paper; Does scholastic research and industry cooperation has any synergistic impact in financial advancement? Does scholastic establishments' cooperation with industry move the concentration far from essential research? What are the results of the move? Utilizing the work area survey approach the examination contends that scholastic research and industry coordinated effort albeit clearly a fundamental element of advancement and thriving is and can likewise be hostile. These difficulties or conflicts can be limited if there are clear strategy mandates from the approach creators, the expert organizations and the media [4]. New technological ideas must be employed more efficiently to increase an academics ability to complete with industry. There are numerous obstructions to misuse of new thoughts, however certain measures can help: scholarly specialists ought to have the capacity to attempt consultancy work; increment R&D contracts to little organizations; monetary foundations should be more strong of new innovation; Government to advance value seed capital; scholastic spinouts require low cost premises and access to exhortation; extensive organizations ought to be urged to take minority interests in little organizations; joint effort amongst the scholarly world and industry ought to be expanded [5].

IV. OBJECTIVES

1. Inspect how explore is created and utilized by government, industry and colleges/universities.
2. To look at instruments for conquering any hindrance between scholastic inquire about and the exploration needs of industry and to a littler degree the open.
3. To foster collaboration with reputed universities, institutions for joint research, projects, faculty and student exchange, joint workshops and seminars, joint programs.

4. To develop and strengthen the collaborative agreements between the university, research organizations, industries and government agencies.
5. Share international best practices
6. To foster high impact research through international partnerships that advances the boundaries of knowledge and contributes to the betterment of society worldwide.
7. To provide high quality international educational experience to students through student exchange programs.
8. Participating in industrial projects and include researchers from colleges/universities in relevant projects.

V. Research Point Of Collaboration

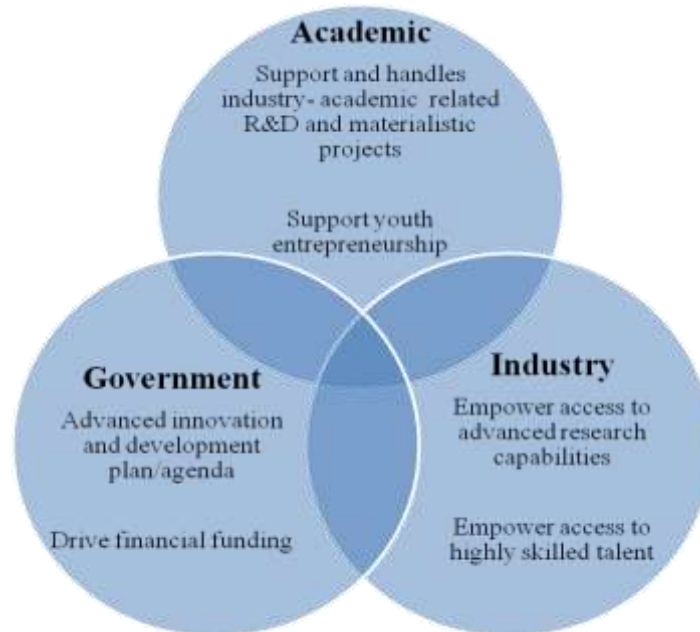


Fig. 1 Research centers of excellence

VI. Swot Analysis

A. Strength

1. Blended Learning
2. Project based learning
3. Students are easily available

B. Weakness

1. Lack of Infrastructure
2. Shortage of trained faculty to meet the increased demand
3. Highly Complex and unclear regulatory framework at complex and State level
4. Regional imbalances- as students are highly unskilled and inexperienced

C. Opportunities

1. Strengthening Governance Leadership and Management at Engineering Institutes
2. Improving the quality of teaching, learning and Research at Engineering Institute
3. Fostering Stronger Industry/ Institute Collaboration
4. Building Innovation and Entrepreneurship in Engineering Education

D. Threats

1. Lack of Skills is a common reason for entry level vacancies
2. Global Competition
3. Government Funding
4. Lack of participation in the value creation

Table 1: Skill Gap Analysis Country Wise [6]

Countries Name	Percentage
Japan	81
Brazil	71
US	49
India	48
Germany	42
France	29
Canada	25
China	23
South Africa	10
Spain	9

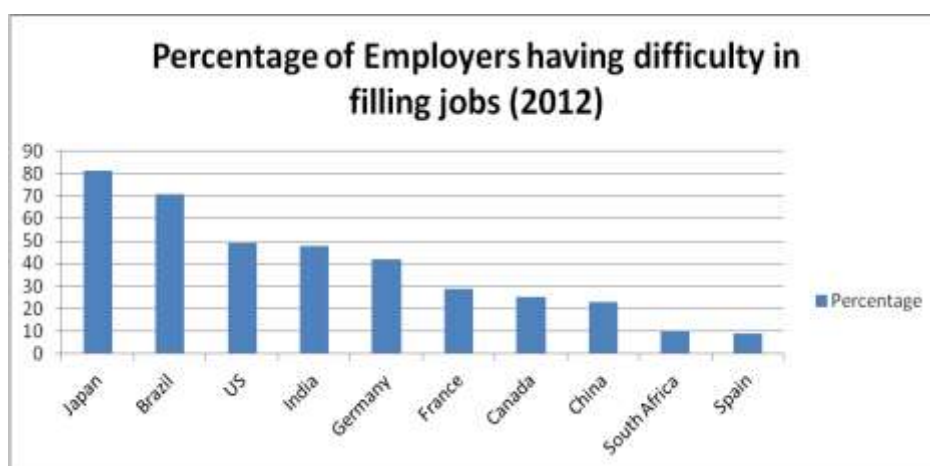


Fig. 2 Skill Gap Analysis Country Wise Graph Diagram

VII. Needs For Academics Connect To The Industry

1. Industry related- Need Teachers training regarding Industrial aspects
2. Students Internship in Industry
3. Students on the job training
4. Consultancy live project from industry
5. Frequently industrial people coming for seminar/workshop or any latest technology

VIII. Solution for the Gap between Academics and Industry

1. Alignment of curriculum with industry requirements
2. Emphasis on skill-based education
3. Workplace exposure through internships, live projects, and corporate interactions, start-ups ecosystem.
4. Faculty development program as per industry requirements
5. Industry sponsored Projects
6. Organizing the industry institute interactions
7. Meet ups
8. Seminar, workshops, guest lectures by industry experts
9. Online project based learning through authentic web platforms.

IX. Key Points of Technical & Professional Education

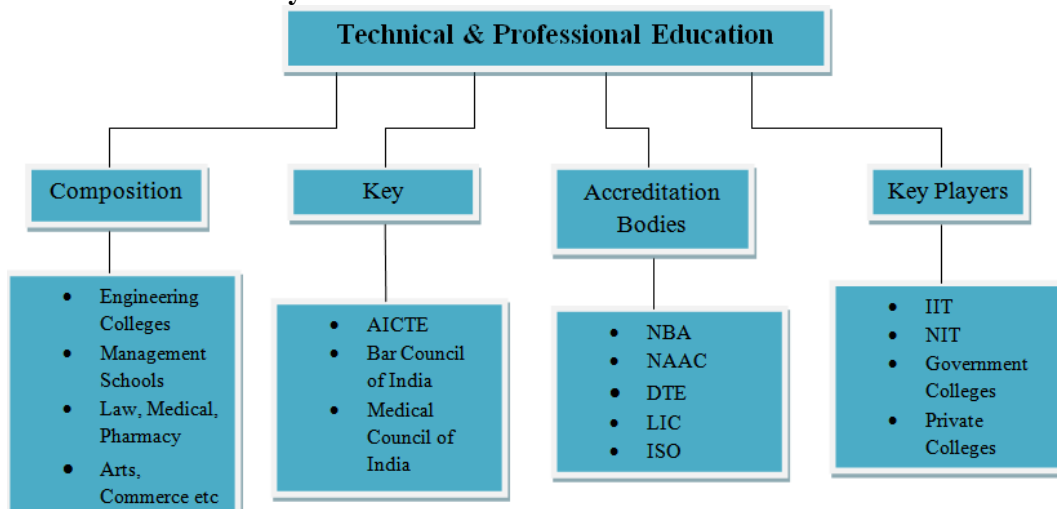


Fig. 3 Technical & Professional Education Analysis

X. Conclusion

Graduates needed by Industry are provided by academia. Research work from the academia is taken up by the industry which is essential for product making or quality improving. Skill sets required by Industry can be provided by institutes by implementing various training modules and research programs. We think It is important for both the stakeholders of Industry and Academics to strive for mutual benefit during the collaborations by streamlining negotiations to ensure timely conduct of the research and the development of the research findings along with training modules and skill development programs. With our Start-up eco system we can say that it is one of the best step to ensure more successful outcomes from academics to industry. To control over financial matters, we find the solution in student internship and to host industry experts guest lectures at academic campus could be the solution for benefit of both stakeholders.

In spite of such broad acknowledgment of the significance of Industry-Academia associations, ironically such coordinated efforts are very constrained in India as well as everywhere throughout the world. The explanation behind this can be credited to the inadequate rule and absence of a clear model because of numerous hindrances to Industry-Academy joint effort that still hold on. With our approach of online project based learning, student internship, Industry sponsored projects, various skill sets workshops for faculty and students.etc we always try to solve this problem. Academicians also have widespread apathy towards applied research and they are largely unaware of the real industrial needs. So faculty development program and industry expert lectures much often can provide solution to this. This problem is further exacerbated by absence of exclusive university-industry interaction cells in campuses.

References

- [1] Colm OKane, Bridging the Gap Between Academics and Industry, *Proceedings of INTED2010 Conference*. Valencia, Spain. 8-10 March, 2010.
- [2] Vijayalakshmi M., Desai P. D., Joshi G. H., An Attempt to Bridge the Gap Between Industry and Academia- An Experience. *In: Natrajan R. (eds) Proceeding of the International Conference on Transformation in Engineering Education*. Springer, New Delhi. Print ISBN: 978-81-322-1930-9, Online ISBN: 978-81-322-1931-6, 2015
- [3] Partha Dasgupta and Paul A. David, Toward A New Economics of Science, *Research Policy* 23(5), DOI: 10. 1016/0048-7333(94)01002-1,1994
- [4] Anietie E. Efi, Synergy between Academic Research and Industrialization: The Search for Development in Nigeria, *Human Resource Management Research*, p-ISSN: 2169-9607, e-ISSN: 2169-9666, doi:10.5923/j.hrmr.20140403.0, 2014; 4(3): 69-74
- [5] David Connell, Bridging the Gap between Academic Researchers and Industrial Corporations, *Industrial Management & Data Systems*, Vol. 87 Issue: 1/2, pp.19-24, <https://doi.org/10.1108/eb057467>, 1987
- [6] The Skill Gap In India, National Institute of Technical Teachers Training and Research, Chandigarh